

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. 97-147

MASTER WATER RECLAMATION PERMIT
FOR
ROSEVILLE REGIONAL WASTEWATER TREATMENT PLANT
CITY OF ROSEVILLE
PLACER COUNTY

The California Regional Water Quality Control Board, Central Valley Region, (hereafter Board) finds:

1. On 4 December 1992, the Board adopted Waste Discharge Requirements (WDRs), Order No. 92-221, NPDES No. CA0079502, for the City of Roseville (hereafter Producer), Regional Wastewater Treatment Plant (Plant). The WDRs include a section permitting the use of reclaimed wastewater for a variety of uses. The Producer owns and operates the Plant which serves the City of Roseville, the City of Rocklin, the City of Loomis, the community of Granite Bay, and other portions of unincorporated Placer County.
2. Treated Plant effluent is discharged to Dry Creek. The current average dry weather wastewater flow is approximately 12 million gallons per day (mgd), with a design dry weather wastewater flow of 18 mgd. The Plant provides tertiary level treatment. The treatment consists of screening, grit removal, primary clarification, aeration, secondary clarification, filtration, chlorination, and dechlorination. Sludge generated by the treatment process is disposed of at the Western Regional Sanitary Landfill, other landfills, and utilized as a soil amendment.
3. The City's Service Area Master Plan recommends that a system of pipelines and pump stations be constructed to deliver tertiary treated reclaimed water to parks, golf courses, and agricultural users for irrigation. The City will be the supplier and distributor of reclaimed water. The City's primary objective for establishing a reclaimed water system is to maximize reclamation and lower the demand on existing water supplies. Excess effluent beyond what could reasonably be reused would continue to be discharged to Dry Creek. The City will dedicate a year-round baseline discharge of effluent from the Plant to Dry Creek. Potential demand exists for all of the reclaimed water that is projected to be available from the Plant. The cost of infrastructure to convey the reclaimed water may prohibit some uses. The major projected demand for reclaimed water is for agricultural irrigation of rice farms.
4. The backbone of the reclaimed water system will be an existing 18- to 20-inch force main that was used for wastewater transmission to the Plant. Reclamation will be accomplished in phases. Phase 1 reclaimed water facilities include reclaimed wastewater facilities at the Plant, a force main, effluent discharge pipelines, and irrigation areas. In phase 1 of the project, Del Webb, Diamond Oaks, and Sierra View golf courses, Woodcreek Golf Club, Mahany Park, Silverado Oaks No. 7 street scape, and proposed Park No. 37 would all receive reclaimed water for irrigation.
5. Use of reclaimed water at Del Webb's Sun City for landscaping and golf course areas has already been approved. In subsequent phases of Master Plan implementation, additional distribution pipelines will be built and other golf courses and parks will receive reclaimed water for irrigation.

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6. Reclaimed water will be conveyed to golf course storage ponds and parks through 8- to 16-inch pipelines via the existing 18-to 20-inch force main. Reclaimed water will be withdrawn from the storage ponds to feed existing spray irrigation systems. Small pump stations will be built to pressurize reclaimed water for spray irrigation. The City envisions a distribution system that will be built to deliver reclaimed water to additional City parks, golf courses, school grounds, institutional landscaping, and road medians.
7. Agricultural irrigation provides the greatest potential use for reclaimed water. The agricultural potential irrigation water demand is between 31,000 to 71,000 acre-feet per year. Reclaimed water would be conveyed via Pleasant Grove Creek and existing irrigation channels. The use of reclaimed wastewater for rice farming may increase the potential for mosquito propagation due to the nutrient content of the wastewater.
8. The California Department of Health Services (the Department) has established statewide reclamation criteria in Chapter 3, Division 4, Title 22, California Code of Regulations, Section 60301, et seq. (hereafter Title 22) for the use of reclaimed water for food crop irrigation; fodder, fiber, and seed crop irrigation; landscape irrigation; and impoundment supply. These requirements implement the reclamation criteria in Title 22.
9. The State Water Resources Control Board (State Board) adopted Resolution No. 77-1, titled, *Policy With Respect to Water Reclamation in California* on 6 January 1977. This policy requires the Board to encourage reclamation and reuse of water in water-short areas of the State.
10. This Order is adopted pursuant to Section §13523.1, Chapter 7, Article 2, of the California Water Code (CWC), which authorizes issuance of a Master Reclamation Permit to producers or distributors, or both, of reclaimed water in lieu of issuing individual water reclamation requirements to each Reclaimed Water User [hereafter User(s)]. Uses of reclaimed water other than those identified in Title 22 are not regulated by this Order, and are to be considered on a case-by-case basis.
11. In 1996, the State Board and the Department set forth principles, procedures, and agreements to which the agencies committed themselves, relative to the use of reclaimed water in California, in a document titled *Memorandum of Agreement Between the Department of Health Services and The State Water Resources Control Board On Use of Reclaimed Water* (MOA). This Order is consistent with the MOA.
12. The Board adopted a Water Quality Control Plan, Third Edition, for the Sacramento River Basin and the San Joaquin River Basin (hereafter Basin Plan) which contains water quality objectives for waters of the Basin. These requirements implement the Basin Plan.

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13. The beneficial uses of the underlying ground water include municipal, domestic, agricultural and industrial supply.
14. The Producer has certified the Roseville Regional Wastewater Treatment Service Area Master Plan Environmental Impact Report (EIR) in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21100, et seq.). The Producer did not identify any potentially significant impacts on water quality associated with the reclamation. The Board has reviewed the EIR and concurs that the reclamation project will not result in significant impacts to water quality.
15. Water reclamation is exempt from the requirements of Title 23, California Code of Regulations (CCR), Section 2510, et seq. (hereafter Chapter 15). The exemption, pursuant to Section 2511(b) is based on the following:
 - a. The Board is issuing a Master Reclamation Permit, and
 - b. The reclamation complies with the Basin Plan, and
 - c. The reclaimed water does not need to be managed according to 22 CCR, Division 4.5, Chapter 11, as a hazardous waste.
16. The Board consulted with the Department, County Health Department, and Mosquito Abatement District and considered their recommendations regarding public health aspects for use of reclaimed water.
17. The Board has notified the Producer and interested agencies and persons of its intent to prescribe reclamation requirements for this water reuse and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
18. The Board, in a public meeting, heard and considered all comments pertaining to the reclamation.
19. Any person adversely affected by this action of the Board may petition the State Board to review the action. The petition must be received by the State Water Resources Control Board, Office of the Chief Counsel, P.O. Box 100, Sacramento, CA, 95812-0100, within 30 days of the date on which this action was taken. Copies of the law and regulations applicable to filing petitions will be provided on request.

IT IS HEREBY ORDERED that the City of Roseville, its agents, successors, and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, shall comply with the following:

A. Reclaimed Water Prohibitions

1. The direct discharge of reclaimed water to surface waters is prohibited.
2. By-pass or overflow of untreated or partially treated reclamation water from the reclamation plant or any intermediate unit processes to the point of use is prohibited.
3. Excessive irrigation with reclaimed water which results in excessive runoff of reclaimed water, or continued irrigation of reclaimed water during periods of rain is prohibited. Overspray or runoff associated with normal sprinkler use is acceptable.
4. Application or impoundment of reclaimed water within 50 feet of any well used for domestic water supply is prohibited, unless approved by the Department of Health Services Drinking Water Branch.
5. The use of reclaimed water shall not cause the degradation of ground water.
6. The direct discharge of reclaimed water to Pleasant Grove Creek is prohibited except when no natural flows are present or when reclaimed water can be isolated and removed from the Creek prior to commingling with natural stream flows.
7. The direct discharge of reclaimed water to irrigation channels that are hydraulically connected to waters of the State is prohibited.

B. Reclaimed Water Limitations

1. The reclaimed water discharge shall, at a minimum, be an adequately oxidized, coagulated, filtered, and disinfected water.
2. The median concentration of total coliform bacteria measured in the disinfected effluent shall not exceed an MPN of 2.2 per 100 milliliters utilizing the bacteriological results of the last seven days for which analyses have been completed and the number of total coliform bacteria shall not exceed an MPN of 23 per 100 milliliters in more than one sample in any 30-day period. No sample shall exceed an MPN of 240 total coliform bacteria per 100 milliliters.
3. Disinfection of tertiary treated wastewater shall be accomplished by a chlorine disinfection process that provides a CT (chlorine concentration times modal contact time) value of not less than 450 milligram-minutes per liter at all times with a modal contact time of at least 90 minutes, based on peak daily design flow.

4. The coagulation system shall be used whenever the plant is producing tertiary-treated wastewater for unrestricted use. For the purpose of maintenance and repair of the system, the Producer is allowed to have the coagulation system off-line for short periods of time (up to 30 minutes for each occurrence), when the turbidity of the influent to the tertiary treatment plant is less than 5 NTU.
5. Disinfected tertiary treated wastewater for unrestricted use shall be continuously sampled for turbidity using a continuous turbidity meter and recorder at a point prior to filtration and again following filtration. Turbidity measurements shall be based on a reading and recording of the turbidity strip charts or computer records at four-hour intervals at least once per day. Compliance with the daily average operating turbidity shall be determined by averaging the results of all four-hour turbidity samples read during the day. The results of the daily average turbidity determinations shall be reported monthly to the Board.

The turbidity of the filter effluent shall not exceed 2 NTU as a daily average, 5 NTU more than 5 percent of the time, nor 10 NTU at any time.

6. Water in the surface layer of any pond or earthen reservoir containing reclaimed water shall meet the following limitations at all times:
 - a. Dissolved oxygen shall not be less than 1.0 mg/l.
 - b. pH shall not be less than 6.0 or greater than 9.5.
7. The use of reclaimed water shall not cause a statistically significant increase of nitrate or salt concentrations in underlying ground water.
8. The use of reclaimed water shall not cause concentrations of chemicals and radionuclides in ground water to exceed limits set forth in Title 22, Chapter 15, Articles 4 and 5 of the California Code of Regulations.

C. Reclaimed Water Specifications

1. Neither the treatment nor the use of reclaimed water shall cause a pollution or nuisance as defined by Section 13050 of the CWC.
2. The use of reclaimed water shall not cause degradation of any water supply.
3. Reclaimed water shall be managed in conformance with the regulations contained in Title 22, Division 4, Chapter 3, CCR.

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4. All reclamation equipment, pumps, piping, valves, and outlets shall be appropriately marked to differentiate them from potable facilities.
5. Perimeter warning signs indicating that reclaimed water is in use shall be posted as prescribed in the User's Reclamation Plan which is subject to approval by the Board and the Department.
6. Reclaimed water shall not be allowed to escape from the authorized use areas by airborne spray or by surface flow except in minor amounts such as that associated with good irrigation practices.
7. A minimum freeboard of two (2) feet shall be maintained at all times in any reservoir or pond containing reclaimed water, except with prior written authorization by the Board's Executive Officer.
8. All reservoirs and ponds shall be adequately protected from erosion, washout and flooding from a rainfall event having a predicted frequency of once in 100 years.
9. There shall be at least a ten foot horizontal and one foot vertical separation at crossings between all pipelines transporting reclaimed water and those transporting domestic supply, with the domestic supply above the reclaimed water pipeline, unless approved by the Department of Health Services.
10. There shall be no cross-connection between potable water supply and piping containing reclaimed water. Supplementing reclaimed water with potable water shall not be allowed except through an air-gap separation, or if approved by the Department, a reduced pressure principle backflow device.
11. Areas irrigated with reclaimed water shall be managed to prevent ponding and conditions conducive to the proliferation of mosquitos and other disease vectors, and to avoid creation of a public nuisance or health hazard. The following practices shall be implemented, at a minimum:
 - a. Irrigation water must infiltrate completely within a 48-hour period.
 - b. Ditches receiving irrigation runoff, not serving as wildlife habitat, shall be maintained free of emergent, marginal, and floating vegetation.
 - c. Low-pressure and unpressurized pipelines and ditches accessible to mosquitos shall not be used to store recycled water.

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12. The reclaimed water piping system shall not include any hose bibs, except at the treatment plant, on hose bibs with appropriate signage.

D. Provisions

1. The Producer shall establish and enforce rules and/or regulations for Users governing the design and construction of reclaimed water use facilities and the use of reclaimed water in accordance with the criteria established in Title 22.
2. The Producer shall develop administrative procedures specifying how the permit-based system for regulating Users will be implemented and how compliance with Title 22 criteria will be assured. Upon Executive Officer approval of the Producer's program, the Producer may authorize specific reclamation projects on a case-by-case basis in accordance with the approved program.
3. The Producer shall be responsible for ensuring that reclaimed water meets the quality standards of this Order and for the operation and maintenance of major transport facilities and associated appurtenances. The Producer shall hold the Users responsible for the application and use of reclaimed water on their designated use areas and associated operations and maintenance in accordance with all applicable Title 22 requirements.
4. The Producer shall conduct periodic inspections of the User's facilities and operations to monitor and assure compliance with conditions of the Producer's permit and this Order. The Producer shall take whatever actions are necessary, including termination of delivery of reclaimed water to the User, to correct any User violations.
5. The Producer shall submit a notice to the Board in anticipation of reclaiming water at a new location, prior to the commencement of reclamation activities at the new location. The notice shall include the following; the site location, the County Assessor Parcel Number(s), the name of the property owner, the name of the User, and a User Reclamation Plan. The User Reclamation Plan shall estimate the anticipated volume of reclaimed water to be used, identify the on-site supervisor who is knowledgeable of the User Reclamation Plan, describe the reclaimed water management facilities and operations plan, reflect consultation with state and local health departments, and explain in detail how compliance with the User Reclamation Plan, Title 22 criteria, and the requirements of the Master Reclamation Permit will be achieved.
6. If, in the opinion of the Executive Officer, reclamation at proposed new locations cannot be adequately regulated under the Master Reclamation Permit, a Report of Waste Discharge may be requested and individual Water Reclamation Requirements may be formulated.

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7. A contingency plan, including notification of the Board and health agencies and outlining actions to be taken when effluent quality fails to meet required standards, shall be submitted **within 90 days of adoption of this Order.**
8. The Producer shall comply with the Monitoring and Reporting Program No. 97-147, which is part of this Order, and any revisions thereto as ordered by the Executive Officer.
9. The Producer shall comply with all applicable requirements for Producers in the "Standard Provisions and Reporting Requirements for Waste Discharge Requirements," dated 1 March 1991, which are attached hereto and by reference a part of this Order. This attachment and its individual paragraphs are commonly referenced as "Standard Provision(s)."
10. The Producer must comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
11. The Producer shall comply with the criteria established in Title 22. Uses of reclaimed water other than those identified in Title 22 are not regulated by this Order, and are to be considered on a case-by-case basis.
12. The Board will review this Order periodically and will revise requirements when necessary.

I, GARY M. CARLTON, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 20 June 1997.



GARY M. CARLTON, Executive Officer

MRB:dlk/20 June 1997

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. 97-147

FOR
MASTER WATER RECLAMATION PERMIT
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The City of Roseville (hereafter Producer) shall implement the following monitoring and reporting program.

Reclamation Treatment Plant Process Monitoring

The Producer shall retrieve samples of filter influent. Monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Turbidity	turbidity units	Meter	Continuous

Reclamation Treatment Plant Effluent Monitoring

The Producer shall retrieve samples of reclamation treatment plant effluent prior to discharge into the distribution system. Monitoring shall include at least the following:

<u>Constituents</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
pH	pH units	Grab	Daily
Total Coliform Organisms	MPN/100 ml	Grab	Daily
Turbidity	turbidity units	Meter	Continuous ¹
Flow	mgd	Meter	Continuous

¹ Report daily average, daily maximum, and percentage of time which effluent exceeds 5 NTU on a daily basis.

Reclamation Site Monitoring

The Producer shall inspect and monitor the reclamation sites on a quarterly basis to verify compliance with the User Reclamation Plan, Title 22 criteria, and the requirements of the Master Reclamation Permit. Any evidence of runoff and, or, discharge to surface waters shall be noted.

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Reporting

The Producer shall submit quarterly reports summarizing reclaimed water use, including the total amount of reclaimed water used, the total amount of reclaimed water supplied, the total number of reclaimed water use sites, and the locations of those sites, including the names of the hydrologic areas underlying the reclaimed water use sites, the County Assessor Parcel Number(s), and the names of the User(s). The quarterly report shall summarize Reclamation Treatment Plant Effluent Monitoring and Reclamation Site Monitoring.

In reporting the monitoring data, the Producer shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to clearly illustrate compliance with the User Reclamation Plan, Title 22 criteria and the requirements of the Master Reclamation Permit.

Quarterly monitoring reports shall be submitted to the Regional Board by the **20th day** of the following month.

Upon written request by the Board, the Producer shall submit a report to the Board by **30 January** of each year. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the Producer shall discuss the compliance record and the corrective actions taken or planned which may be needed to bring the reclamation into full compliance with the Master Reclamation Permit.

The Producer shall implement the above monitoring program as of the date of this Order.

Ordered by:


GARY M. CARLTON, Executive Officer

20 June 1997

(Date)

MRB:dlk/20 June 1997

INFORMATION SHEET

MASTER RECLAMATION PERMIT ROSEVILLE REGIONAL WASTEWATER TREATMENT PLANT CITY OF ROSEVILLE PLACER COUNTY

The California Department of Health Services (the Department) has established reclamation criteria in Chapter 3, Division 4, Title 22, California Code of Regulations, Section 60301, et seq. (Title 22) for food crop irrigation; fodder, fiber, and seed crop irrigation; landscape irrigation; and supply of impoundments. The California Water Code authorizes issuance of a Master Reclamation Permit to suppliers or distributors, or both, of reclaimed water in lieu of issuing individual water reclamation requirements to each user.

The Master Reclamation Permit is applicable for uses of reclaimed water that are identified in Title 22. Those uses that are not identified in Title 22 are not regulated under Master Reclamation Permits, and are to be considered on a case-by-case basis.

The City of Roseville is a supplier and distributor of reclaimed water. The City owns and operates the Roseville Regional Wastewater Treatment Plant (Plant) which serves the City of Roseville, the City of Rocklin, the City of Loomis, the community of Granite Bay, and other portions of unincorporated Placer County. Treated effluent is discharged to Dry Creek. The current average dry weather wastewater flow is approximately 12 million gallons per day (mgd), with a design dry weather wastewater flow of 18 mgd. The Plant provides tertiary level treatment. The treatment consists of screening, grit removal, primary clarification, aeration, secondary clarification, filtration, chlorination, and dechlorination. Sludge generated by the treatment process is disposed of at the Western Regional Sanitary Landfill.

On 4 December 1992, the Board adopted Waste Discharge Requirements (WDRs) Order No. 92-221, NPDES No. CA0079502, for the Plant. The WDRs include a section permitting the use of reclaimed wastewater for a variety of uses.

This Reclamation Permit prohibits the discharge of reclaimed wastewater to surface waters, allows the discharge of reclaimed water to Pleasant Grove Creek when no natural flows are present, and allows the discharge of reclaimed water to irrigation channels that are not hydraulically connected to waters of the State.

The Master Reclamation Permit requires the Producer to submit notice to the Board in anticipation of reclaiming water at new locations, prior to the commencement of reclamation activities. Notice shall include the following; the site location, the County Assessor Parcel Number(s), the name of the property owner, the name of the User, Title 22 reclaimed water land use designation and the corresponding Master Reclamation Permit Discharge Specification, a copy of the signed agreement between the Producer and the User, and a User Reclamation Plan. Notice shall include evidence of consultation with State and local health departments.

The User Reclamation Plan is required to estimate the anticipated volume of reclaimed water to be used, identify the on-site supervisor knowledgeable of the User Reclamation Plan, describe the reclaimed water management facilities and operations plan, reflect consultation with state and local health departments,

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and explain in detail how compliance with the User Reclamation Plan, Title 22 criteria, and the requirements of the Master Reclamation Permit will be achieved.

The Master Reclamation Permit requires the Producer to conduct quarterly inspections of the Users to monitor compliance with Title 22 and the requirements of this Order.

The Producer has certified the Roseville Regional Wastewater Treatment Service Area Master Plan Environmental Impact Report (EIR) in accordance with the California Environmental Quality Act (CEQA) (Public Resources Code Section 21100, et seq.). The Producer did not identify any potentially significant impacts on water quality associated with the reclamation. The Board has reviewed the EIR and concurs that the reclamation project will not result in significant impacts to water quality.

MRB:dlk/20 June 1997